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No. 10

SPECIAL ARTICLES

LONDON SOCIAL SERVICE COUNCIL REPORT
OF PUBLIC HEALTH COMMITTEE
ON INFANT MORTALITY

A TORONTO EXPERIMENT

A. M. GOULDING, M.D.

MALNUTRITION IN SCHOOL CHILDREN

CHARLES. S. MACDOUGALL

PROGRESS OF VENEREAL DISEASE CONTROL IN
CANADA

DR. J. J. HEAGERTY, M.D., D.P.H.

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Few Men Dread Death Itself

A PHYSICIAN of long experience told the Ohio State Journal the other day that, when the time comes, few men dread death itself for *themselves*.

What they do dread, he said, is leaving *their families* unprovided for.

He told of some sad scenes where men about to die repented bitterly of their failure, while yet there was time, to assure the future of those dependent on them for material support.

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BRANCHES AND AGENCIES THROUGHOUT THE DOMINION

The Public Health Journal

VOL. XII.

TORONTO, OCTOBER, 1921

No. 10

London Social Service Council Report of Public Health Committee on Infant Mortality

Committee.—Lt.-Col. Wm. M. Gartshore, Pres., London Child Welfare Association; Miss Bertha Smith, Supervising Nurse, L.C.W.A.; Dr. W. S. Downham, M.O.H., London; Mr. R. H. Sanders, Inspector, B.O.H., London; Miss Helen Tufts, Assistant Secretary, London Children's Aid Society; Miss B. D. Friend, Industrial Nurse, Sommerville Box Factory; Dr. H. W. Hill, Director, Institute of Public Health, Chairman.

Continued from the September issue.

REPORT—MARCH 1ST, 1920, TO MARCH 1ST, 1921.

	Previous				
	Clinics held.	Attend.	Aver.	No. on record.	New cases.
For Sick Babies	51	413	8	364	118
For Well Babies	142	2191	15	273	385
Baby Week 3 days			457		
Total				3061	conferences given.

Cases referred to us for

Instruction and Visiting.	Disposal of Cases.
By family physician	89 Admitted to Hospital
“ Soldiers' Aid	22 Referred to Out-pat. Dept.
“ Children's Aid	10 Referred to family phy-
“ request of mothers	86 sician
Visited, came to Clinics	503 Moved away
	Discharged
	Died
	On present visiting list

710 710

3 Nurses, full time—8 hour day.

London, Ont., children born in 1920, including stillbirths 1,518
London, Ont., children died in 1920, including stillbirths 208

From Prenatal Causes—		
Stillborn	56	
Premature	30	
At birth or condition at birth	39	125 or 60% total deaths
From Nutritional and Feeding Causes—		
Definitely Nut.	27	
Intestinal Infections	10	
Doubtful	4	41 or 20% total deaths
From Infectious Diseases—		
Flu Pneumonia	8	
Pneumonia	12	
Meningitis	6	
Other Infections	5	31 or 15% total deaths
Miscellaneous	11	or 5% total deaths

208

London, Ont., 1919, Official Infant Mortality Rate (excluding still-births)—116.7 per 1,000 live births.

London, Ont., 1920, Official Infant Mortality Rate (excluding still-births)—104.0 per 1,000 live births.

Total loss, 1920 (including stillbirths)—137.0 per 1,000 live births.
(3-5 of the total loss died from prenatal causes.)

RECOMMENDATIONS.

The recommendations which naturally grow out of these studies are here summarized:

1st. Because 60% of the *total recorded loss* of infant life (including stillbirths but not miscarriages), was due to prenatal or natal causes (the former greatly preponderating) the medical profession as a whole, all interested citizens, and the public generally should direct their attention especially to the physical condition of women preceding the births of their children—particularly with regard to *disease, nutrition and heredity* in the broadest senses of those terms.

2nd. Because at least two-thirds of the recorded loss of infants *born alive* at full term were due to nutritional diseases, or to infectious diseases, the former largely dependent on artificial feeding as against proper nursing with human milk, the attention of all concerned should be concentrated on securing to the young infant (a) human milk, (b) protection from infectious diseases. No more startlingly misleading and often fatal teaching exists than that which implies that infectious diseases are relatively light and harm-

less in young children. The actual facts, as opposed to the traditions show that *mortality in children* from the ordinary infectious' diseases is found especially at the younger ages. The vast bulk of the deaths from the infectious diseases of children occur between the ages of 1 and 7, principally before the age of 5.

3rd. That, to secure these ends, prenatal care for prospective mothers, and infant feeding for young babies, should receive every encouragement from the medical profession, citizens and the general public.

4th. That Boards of Health should receive the hearty support and intelligent co-operation of the same groups in every effort at minimizing infections of every kind.

5th. That the proper legislative and sociological methods for prevention of the marriage of the unfit should be studied with the object of preventing the reproduction of the unfit, especially of the feeble-minded.

6th. That the proper training and instruction of the fit should be provided by courses in housewifery in the public schools designed for girls from the age of 12 upwards, following the extremely successful plan initiated in New Zealand.

INFANT MORTALITY STUDIES.

In considering carefully the amount of "infant mortality" (deaths of infants under one year) the main object is to find how to prevent it. A mere statement of the total figures is a first step towards prevention, for these figures give the first shock, and catch the first attention of those who, not knowing the extent of the loss, have so far given it no thought. But once attention is directed to this huge leakage in human life, and great loss of prospective population, the next thing is to study the individual cases with the object of finding to what the individual losses are due, and whether or not the individual causes, operating in each instance, are of a character susceptible of restriction or of abolition.

Hence, in the groupings of causes of deaths which follow, the groups are formed and studied always with the point of view of placing together those deaths which were due to similar "immediate causes"; the similarities in the causes being based, not on similarities in anatomical or physiological character, but on similarities in preventibility—that is, on similarities in such preceding causative conditions as are susceptible of control. Thus (confining ourselves to deaths under one year, because it is in this period that

the really enormous losses occur) we first separate those children born dead from those born alive who afterwards died, and we do this because those who died before birth must, as a class, have died from immediate causes differing in degree or in kind from the immediate causes which produced death after birth. Taking now only those born alive, we separate those born alive prematurely from those born alive at full term because it is obvious that those born prematurely enter the outer world under a different set of conditions from those born at full term, the former having an initial handicap, first, from those conditions which resulted in the premature birth; and, second, from the mere fact of prematurity itself.

Hence stillborn children, and premature children who die, call for the exercise of preventive measures that antedate birth—prenatal measures. Even those children who are born alive at full term may sometimes succumb later from prenatal cause, although the operation of prenatal causes in their cases is obviously not so extreme as in the previous classes. Nevertheless, the operation of prenatal causes in the deaths of children born at full term is evident in some cases; and this is particularly true of the deaths of full term children who die *very soon* after birth. So true is this that classification by age of the deaths of children born at full term corresponds in a general way with a classification by cause; for the deaths at the younger ages usually have causes more or less due to prenatal conditions and more or less closely allied to those producing prematurity and stillbirths; while the deaths at the older ages usually have causes due rather to post-natal conditions—malnutrition and infection.

With this introduction we may give the actual figures for London in 1920, as based on the returns of births and deaths made by physicians to the local Registrar, Mr. Samuel Baker, who is also the City Clerk. These returns were transcribed by Miss Bertha Smith, Supervising Nurse of the Londo Child Welfare Association, and worked out, in collaboration with the D.P.H. and C.P.H.N. candidates at the Institute of Public Health by the Director.

They are therefore as correct as such figures reasonably can be, and have received close scrutiny from many critical eyes before reaching their final form as here presented.

CHILDREN UNDER ONE YEAR OLD—TOTAL RECORDED LOSS=13.7%.*

Total number of children born 1920 (including stillbirths, premature and full term living births)=1,518.

Total number lost by death under one year (including stillbirths, premature and full term living births) = 208.

Percentage loss = 13.7%, or 137.0 per 1,000.*

TABLE I.

Total Recorded Loss Classified.

	Number.	Per cent.	Proportions under 1 year.
Premature children dying	= 30	14.4%	1-7 of total deaths
Stillborn (Prem. or full term)	= 56	27.0%	2-7 of total deaths
Born living at full term but dying within a year	= 122	58.6%	4-7 of total deaths
			— — — —
	208	100	%

Thus the premature births form about 2%, the stillbirths about 4%, the later deaths under one year about 8% of the *total births*.

COMMENTS ON TABLE NO. I.

From the standpoint of preventability of death, the total children recorded as lost by death in London in 1920 (208) divide themselves quite naturally into three main groups. The first group consists of the stillborn children (56). Their deaths were obviously due to causes which must necessarily have developed and been in operation *at or before birth*. The second group consists of the premature children who died (30). Their deaths were obviously due in part to causes which had developed and operated *at or before birth* (those causes which resulted in the premature birth); in part to these same causes, *continuing to operate after birth*; in part to causes developing and operating after birth. The third group consists of the full-term children who died (122). Their deaths were due in some cases, it is true, as in the last groups, to causes developing and operating before birth; but in some cases to injuries received at birth and in some cases to causes developing and operating after birth had occurred, the latter group being the most important numerically.

Thus we recognize three general groups of causes of infant deaths—those developing before, at, or after birth; or prenatal, natal and post-natal. The causes of death in stillbirths are exclusively prenatal and natal; those in premature births, chiefly pre-

*This is *not* the infant mortality rate. (See p. 12.)

natal but also natal and post-natal; those of full term births chiefly post-natal, but also in some cases natal, in others prenatal.

UNRECORDED LOSSES.

Prenatal causes produce also losses not shown in the above recognized groups at all, and not recorded in any required register. These losses are the losses due to deaths of infants born before the seventh month of pregnancy. Such "fetal births" are generally known as miscarriages, or abortions. They constitute a loss of potential citizenry of unknown dimensions.* They are due to very much the same set of causes which produce premature births and stillbirths. They equally require investigation, and are in part at least susceptible of prevention by like measures. But they are not recorded officially at all in infant mortality statistics.

LENGTH OF LIFE OF PREMATURE CHILDREN WHO DIED.

TABLE II.

Premature children who died lived for following periods:

Less than 1 day =	3	1 to 6 days =	8
7 to 13 days =	4	14 to 20 days =	2
21 to 27 days =	3	4 months =	1
		Not given =	9
Total =			30

COMMENTS ON TABLE No. II.

This table shows that the prematurely born who died lived as a rule so short time before death that the post-natal measures which could be brought to bear on them had no prolonged opportunity for action. (Those 9 deaths for which no age is stated may be assumed to have died very early indeed—within a day—thus making the loss within a week 2-3 of the total.) This is perhaps merely another way of saying that in these cases the prematurity itself was the great cause of death.

It would be interesting to know *how* premature the various premature children were, i.e., to know the (intra-uterine) "age at birth." Unfortunately this is seldom if ever recorded and the systematic reporting of this "age at birth" is *the first of the improvements in birth registration which should be kept in mind for the future.*

*Morgan, of Toronto, estimates miscarriages as about double the number of stillbirths.

The cause of death in those dying after premature birth is almost always omitted, but should be recorded in all cases, and the making of such records constitutes *the second of the improvements we would urge.*

In most of the premature cases in London we are left ignorant on the two points.

Concerning stillbirths also the cause of death is practically never given—probably is seldom determined or indeed determinable, without an autopsy. Seldom is the distinction made clearly between stillbirths of premature children and stillbirths at full term. (Premature children, stillborn, are usually registered as stillbirths, not as premature.)

The third improvement would consist therefore in reporting the (intra-uterine) "age at birth" of stillbirths; *the fourth would be*, the reporting of the causes of stillbirths. *A fifth and exceedingly important improvement*, the carrying out of which would yield an immense amount of invaluable information, of an exact character, is one in which both physician and parent should co-operate in the interests of the race, namely, the *performance of an autopsy* in every case of early death, whether the child be premature or stillborn.

The reasons for urging very strongly this turning of attention to premature and stillborn infants may be summarized thus:

(a) The great percentage which losses under these heads now form of the total loss—over 40%. Surely no group of this size should escape minute attention.

(b) The susceptibility of this group to reduction by preventive measures, directed to the care of the mother, medically, surgically and through hygienic and sanitary channels. An accurate knowledge of the causes would lead to specific measures to prevent their operation.

(c) The fact that consideration of this group leads to consideration of that phase of infant welfare which aims at the elimination from reproduction of the unfit for reproduction, particularly of those who produce children defective mentally, as well as those who produce children defective physically or hopelessly diseased.

LONDON INFANT MORTALITY—OFFICIAL RATE=104.0 PER 1,000

BIRTHS.

The official infant mortality rate.

Total births (excluding stillbirths)	=1462
Total deaths under 1 year (excluding stillbirths)	= 152
Hence infant mortality rate=104.0 per 1,000 births.	

COMMENTS ON "LONDON INFANT MORTALITY—OFFICIAL RATE."

The "infant mortality rate" is a figure used the civilized world over for the comparison of the infant mortality of different places. It is figured always on the basis of the total living births for one year (disregarding stillbirths entirely, but including both premature living births, and full term living births). The deaths for the same year of premature and full term children under one year of age (disregarding stillbirths entirely) are then expressed as a fraction of the total births on the basis of so many deaths per 1,000 births.

To arrive at this infant mortality rate for London in 1920 it is necessary therefore to take the total births for 1920 (1,518); subtract the stillbirths (56), and thus find the accepted living birth total (1,462); then to take the total deaths under 1 year for 1920 (208); subtract the stillbirths (56), and thus find the accepted death total (152); the official infant mortality rate for 1920 is then the fraction 152/1,462 expressed on the basis of 1,000 or 104.0 (=10.4%).

This figure indicates that over 10% of all children, born alive in London in 1920, whether premature or full term, have died or may be expected to die within the year of birth.

It is evident, of course, that premature babies born alive have much less chance of survival than full term babies born alive, other things being equal, so that it is of interest to know what percentage of the full term babies survived. This figure is obtained by subtracting from the total deaths, both stillbirths and prematures, and of course making the same deductions from the total births—then working out the percentage as before.

There is still one more consideration; the full term births (excluding stillbirths) included a certain number of children born alive but who were born deformed, or were injured at birth in various ways to an extent which made prolonged life impossible. Such maldevelopments may range from absence of the head to non-closure of the fetal valve-opening in the heart, and include almost every conceivable defect; while the injuries may similarly be of almost any description.

Maldevelopment must of course be due to prenatal causes, although just what the character of the causes may be is by no means always clear. Injuries at birth, although sometimes avoidable, are by no means always so. If, however, we are to discover the losses that are clearly due to post-natal causes it is necessary to eliminate both maldevelopment and injuries at birth.

As recorded these totalled for maldevelopment 17 and for injuries at birth 2 or 19 in all. Subtracting these from the 122 deaths of full term children born alive, 103 remain, or just about 50% of the gross total (208). But this is not yet the whole story.

PRENATAL AND NATAL CAUSES.

Maldevelopment is a very definite result of prenatal causes; but by no means the only one. Thus extreme weakness due to natal or prenatal causes is not uncommonly reported as a cause of death in a child not obviously maldeveloped. If we take *all* the deaths recorded as due to prenatal and natal causes together, we find that they total 39; these together with the stillbirths (56), and the premature (30), which are clearly prenatal, make 125 out of a total of 208, which is about 60%. The vast majority of these are obviously of prenatal, not natal origin.

TABLE III.

Infant deaths in London, 1920, from Prenatal and Natal causes.

under 1 month	=	31
1 month	=	3
2 months	=	2
3 months	=	1
4 months	=	1
5 months	=	0
6 to 12 months	=	1
		39

The deaths from post-natal causes remain then as about 40% of the total loss, and it is only this 40% that can be regarded as wholly dependent, as a rule on the after-care of the child. Even this relatively small number is subject to the fact that some of the deaths included in it probably were due at least indirectly to prenatal causes.

POST-NATAL CAUSES.

Approximately 40% of the total loss of children in London has been shown as above to be due to post-natal causes.

The main post-natal causes may be classified as those related to nutrition and those related to infection. In the cases of death reported as due to intestinal trouble it may be difficult to say how much is due to nutrition, how much to infection, so that intestinal cases may be subdivided into those clearly stated as nutritional, those clearly stated as infectious, and a third group in which doubt

remains. (Note.—Of the 83 deaths due to post-natal causes, 72 only could be classified; in the others, indefinite terms were recorded, giving no real clue to the proper classification. See also footnote 3, table 8.)

POST-NATAL CAUSES CLASSIFIED.

TABLE 4

	1st mo.	2nd mo.	3rd mo.	4th mo.	5th mo.	6th mo.	7th mo.	8th mo.	9th mo.	10th mo.	11th mo.	12th mo.	Total
Definitely nutritional...	6	5	5	2	4	2	2	1	0	0	0	0	27
Infecional....	6	4	0	1	7	2	1	2	2	3	2	1	31
Intest.													
Intest. (infect.)....	1	0	1	1	1	0	0	1	2	0	0	3	10
Intest. (doubtful)...	1	0	0	2	1	0	0	0	0	0	0	0	4
Total deaths (with "unstated" 3) =													
122.....	47	12	8	7	14	5	6	4	5	3	4	4	72

The approximate percentages of the nutritional, infecional, etc., deaths in each month to the total deaths all causes per month is as follows:

TABLE 5. (Same facts as in Table 4 in percentages)

	1st mo.	2nd mo.	3rd mo.	4th mo.	5th mo.	6th mo.	7th mo.	8th mo.	9th mo.	10th mo.	11th mo.	12th mo.
Definitely Nutritional....	12.5%	42	62	28	28	40	33	25	0	0	0	0
Infecional.....	12.5	33	0	14	50	40	16	50	40	100	50	25
Intest. (infect.)...	2.0	0	12.5	14	7	0	0	25	40	0	0	75
Intest. (doubtful),	2.0	0	0	28	7	0	0	0	0	0	0	0
Percentage of total deaths....	29.0	75	74.5	84	93	80	40	100	80	100	50	100

This table is chiefly of interest in showing that in the earlier months the nutritional causes are of greater weight than the infecional, but the latter gradually catch up to, outstrip and tend to replace the nutritional as age increases. This is strikingly shown in the following table.

CAUSES OF DEATH DURING THE FIRST FIVE YEARS OF LIFE

(Excluding stillbirths and premature births)

TABLE 6

	1st year	2nd year	3rd year	4th year	5th year
Definitely nutritional.....	27	0	0	0	0
Definitely infecional.....	31	16	7	5	3
Intest. (infect.).....	10	0	0	0	0
Intest. (doubtful).....	4	1	0	0	1
Total deaths.....	122	20	7	5	4

TABLE 7.
(Same facts in percentages)

	1st year	2nd year	3rd year	4th year	5th year
Definitely nutritional.....	22%	0	0	0	0
Infectious.....	25	80	100	100	75
Intest. (infect.).....	8	0	0	0	0
Intest. (doubtful).....	3	5	0	0	25
	—	—	—	—	—
	58	85	100	100	100

Taken with the previous table it is easy to see that after the first year of life infection supplies the great causes of death, malnutrition as a cause of death being confined in its operation almost wholly to the first year of life and largely to the first eight or nine months.

TABLE 8

SUMMARIZING PREVIOUS FIGURES and showing the percentage of total deaths of children at a given age, up to 5 years old, who die at that age. (NOTE.—The estimations of the total children living at each age, above the first year of life, in London, are approximations based on the age distribution figures for Canada census of 1911.)

Total Losses Under 5 Years of Age

	Total living ¹ at age given. (In first year, total births inc. stillbirths)	Deaths at age given. (In first year, inc. stillbirths)	Per cent. of deaths to living	Chief causes of death.	Percentage of total loss under 5 years
				No. Dying (inc. stillb'ths)	
In first year.....	1,518	208	13.70%	125 prenatal and natal 42 nutritional ² 41 infectious ³	50% 17% 17% 84%
In second year.....	1,300	20	1.54%	17 infectious	
In third year.....	1,300	7	0.54%	7 infectious	
In fourth year.....	1,300	5	0.39%	5 infectious	
In fifth year.....	1,300	4	0.31%	4 infectious	

¹Prenatal and natal causes (inc. stillbirths) furnish 50% of total loss under 5 years.

Nutritional causes furnish 17% of total loss under 5 years.

Infectious causes furnish 31% of total loss under 5 years.

²If stillbirths be excluded the first line of the above table will read for

1518 208 13.70 125 42 41 50 17 17 =84%

substitute 1462 152 10.40 69 42 41 36 22 22 =80%

also, the 14% in last column will read 19% and the note¹ will read prenatal and natal causes (excl. stillborn) furnish 36% of total loss under 5 years.

TABLE IX.

This table emphasizes the fact of the concentration of deaths at early stages in the babies' lives:

Deaths before the 1st month of normal life (stillborn and premature).....	=	86
Deaths in the 1st month of normal life.....	=	47
" " 2nd " " "	=	12
" " 3rd " " "	=	8 1st 3 months = 153
<hr/>		
" " 4th " " "	=	7
" " 5th " " "	=	14
" " 6th " " "	=	5 2nd 3 mons. = 26; 1st 6 months = 179

Nutritional causes furnish 22% of total loss under 5 years.

Infectional causes furnish 40% of total loss under 5 years.

^aOf the 83 deaths clearly not due to prenatal or natal causes 72 give definite information permitting classification as above. We may assume that the remaining 11, for which indefinite causes were given, may be divided on the same basis.

A Toronto Experiment

BY A. M. GOULDING, M.D.

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Read before the Section of Child Hygiene, Canadian Public Health Association, May 1921.

THE lot of the orphan or dependent child has always been hard. From the earliest times the orphan has been the type quoted when it was desired to rouse pity and charitable emotions in the hearer. Unfortunately the practical form taken by these emotions in the effort to benefit the orphan has not always been for the best. The easiest, commonest and perhaps also the earliest method of dealing with such children was to house them in Orphan Asylums. Careful records are not easy to keep, but the few that have been kept show in a way how moderate was the success that attended these efforts. For example—the London Foundling Hospital was a worthy charitable institution of the 18th Century. Here one placed an infant in a basket that always hung outside the front door, one rang the bell and departed. The infant was taken in, and generally also departed in a short time. In 1756 this hospital announced that during the previous four years 14,934 children had been received. Of these 10,389 had perished in early infancy—a mortality of 68%. So much for the 18th century—now for the 20th.

Chapin,¹ writing in 1915, reported the averaged annual rate of deaths to admissions in the infant asylums of the eleven largest cities of the United States—the averages covering from four to 20 years according to the reliability of the records. The mortality rates ran as follows:—New York, 51%; Boston, 40%; Buffalo, 40%; others, 60 per cent., 31 per cent., 75 per cent., 68 per cent., 65 per cent., 47 per cent., 36 per cent., 49 per cent. On the whole the 18th century does not suffer much by the comparison. The mortality in these cases was chiefly in cases under one year. In the institution in 1907 there were 320 admissions; of whom 147 died under one year, and 18 between one and two years. Some years ago Dr. Barnardo's Society in England built their "Babies Castle"—in the country—and fitted it with everything needed for

¹Jour. Am. Med. Ass. Vol. 64, No. 1, 1915.

the welfare of 100 infants. The mortality rate was not quoted, but after a short time the Castle was turned over to the older children and the surviving infants removed. Dr. Miner Hall in April of last year quotes San Francisco records for their foundling institutions showing a mortality of 50%. Among boarded out cases of the same type the mortality was 12%.

Of Boarding Out schemes the best known is probably the Speed-well Unit System, started by Dr. Chapin in 1902 at Morristown, N.J., and later extended to other suburbs of New York. A unit is a certain district either in town or country noted for general healthful conditions. In this district are certain selected foster homes where infants may be boarded out. The infants are kept as long as their condition requires it; and their welfare is supervised by a salaried physician and nurse who make frequent periodical visits. There is also a committee of local women who do much to help the supervision and also something towards financing the homes. The daily cost in 1919 was \$1.23 per capita, and this included the services of doctor and nurse, and \$18.00 a month for the foster mother.

The improvement of even the most ill-nourished infants under this treatment has been very striking and many lives are now being saved that would otherwise most certainly be lost.

To set against this picture we have the paper by Hess on Institutions as Foster Mothers, 1916.² He describes conditions at the Hebrew Infant Asylum of New York which cares for 400 children under the age of 5.

The institution is a model one,—separate cubicles for all admission cases, one nurse to every five infants, a modern milk laboratory and even a wet nurse to provide breast milk to cases that need it. This last luxury is one that most infant hospitals have to do without! He admits that "cross infections" are a serious menace, but by having dressing rooms arranged to avoid close contact, by keeping infants and runabout children separate, by masking all persons with colds, and by running the place one hundred per cent. efficient he manages to keep the mortality down to 16% for cases under one year, and to 8% for cases from 1 to 5. He points out that there are bad foster homes as well as good ones. He claims that milk laboratories and scientific infant feeding are unavailable for the boarded out child. He declares that the term "Hospitalism" means merely a lack of proper accommodation, in-

²Arch. Pediatrics. Feb. 1916.

adequate and inefficient nursing, and incompetent medical attention. He quotes cases returned from foster homes in a poor condition who have thrived amazingly in the asylum and he finishes by claiming that it is not the infant under one year who fails to thrive in institutions but the young child from one to five. It will be seen that he differs absolutely from Dr. Chapin, though he admits that cases in the admission cubicles—one to each cubicle—do very much better in the open wards. The analogy between the individual cubicle and the individual foster home does not seem to occur to him. It is, moreover, on record, 1918, that the New York State Board of Charities considers the death rate of institutional children under two years to be five times that of other children of the same age and in the same area.

The Toronto Infants' Home has occupied its present position and building since 1881—40 years. Some years ago, a new wing was added which combined most of the defects of the old building with some new ones of its own.

The object of the home was primarily to provide shelter for destitute mothers with their children, under four years of age, and incidentally also for destitute children themselves. The ideal was an excellent one. Mother and child were kept together while the other children had the benefit of motherly care as well. Where necessary it would help raise the moral tone of the mothers by providing them with useful domestic tasks, and at the same time prolong the period of breast feeding.

As it worked out, this ideal was somewhat modified. Many of these destitute mothers were unmarried, and some of them were a thoroughly bad lot. Others were pathological cases—mental and moral defectives. The effect of a few such on the rest of the inmates was marked. Many of the mothers were in poor health and the effect of the household tasks instead of raising their moral tone merely dried up their breast milk so that their infants missed the one advantage the home had to offer. As to the motherly care given to the other children,—the less said the better. Infant nursing is a highly skilled art, requiring intelligence, training and goodwill, all of which were frequently absent. The rule which excluded all infants under six months unless accompanied by their mothers was always being broken, and the home was seldom without a few miserable foundlings, most of whom promptly died.

My first information of the Infants' Home—only three years ago—was of a rather awful place on St. Mary's St., where they took Illegitimate Children and Mental Defectives, which any wise

physician carefully avoided. There was some poetic exaggeration about this, as I found when I joined the staff 18 months ago, but at least it expressed the popular opinion of the Home. That opinion I may say still persists.

The medical problems of the Home as we found it in December, 1919, were of two classes—those connected with the cumbersome old building and those connected with the personnel.

Among the first group were the impossibility of proper isolation of admission cases and of the sick, due to the lack of cubicles or small wards. The primitive lighting and heating systems—it is still almost hopeless to try and keep the infants' wards at a temperature of 65°; it usually ranges from 70° upward. The normal requirement of cubic air space—about 500 cubic feet per patient—still rarely reached.

There is no system of ventilation other than by the windows, and if they are open several victims in each ward get half frozen in winter.

The milk laboratory where the individual feedings are made up is quite inadequate and we were never sure which baby would get which feeding. The one small room where all the infants are bathed was generally used as a ward as well. The difficulties of getting the children out of doors are so great that it was not unusual for children to remain indoors for six months at a time. Finally the work and expense of merely keeping up the building was so heavy that little cash and less energy was left for the actual care of the children themselves. Most of the foregoing difficulties remain—but the surprising thing is the difference in results that followed a general reorganization of the personnel.

The greatest problem in the Home, as it is in any institution caring for children, was and is the nursing service. In these days, with every hospital competing for nurses and nursery maids, the problem was not an easy one to meet. Trained nurses were practically out of the question, except for emergency work. They were an expensive luxury. If they were good they usually found some reason for going back to private nursing after a short time. Many of them I regret to say were not good, and they also went. We early found that the infants must not be left to the unskilled efforts of the mothers, and for them we have relied on the semi-trained nurses, under the careful supervision of the head nurse. We have also started a course for semi-trained nurses, and these pupil nurses have proved very satisfactory. The mothers help

with the older children, with the everlasting housework, and of course with the care of their own infants.

There has been a great change in the general attitude of the mothers. I think all the old hard cases have been weeded out by now—and undesirables do not find easy admission. Thanks to the personal influence of the Superintendent and Head Nurse the home has lost most of its prison-like characteristics, and the change of heart on the part of the institution has been met more than half way by the mothers in it. The errors in nursing technique which we now meet are usually due to lack of knowledge, not to the wilful carelessness amounting almost to "sabotage" which before was so common and so disastrous. We still have respiratory infections occasionally passed from one child to another, but on the whole our record is not much worse than that of the average hospital. The medical care of the Home was formerly in charge of a large staff, one of whom was on duty every month. It is now in charge of a small staff on duty all the time.

The present medical staff took over in December, 1919—hoping to accomplish great things by reforming the institution. After six months they were ready to try anything that offered a way out. In July of last year the Boarding Home experiment was started and it has been going now for ten months. Our previous head nurse was appointed officer-in-charge of Boarding Homes and told to go ahead. She did. She hunted out the homes and inspected them,—converted and instructed the prospective foster mothers, transported the children, and kept an eye on the running of the homes as long as the children were there. The work was cumulative. In the first three months six children were boarded out. In the next six months 121 children were boarded out.

We learn from Dr. Hess that many foster homes are worse than institutions. We were told by a New England expert that only 10% of their prospective homes were accepted by the child-placing agencies. But we remembered Dr. Chapin's advice about not being too fastidious, so we went ahead. We have no long-time statistics to show—but in 10 months we have taken on 49 paid foster homes, and of these only three have been thus far rejected. Some homes are in the city, many are outside the city limits, and some are as far removed as Bowmanville and Aurora. In these cases a local physician supervises the conditions. The limit for the best homes is two infants and one child. A sickly infant has a home to itself.

The Toronto homes are visited twice a month by our own nurse, once a month by the public health nurse, and once a month the

children are taken to the nearest well baby clinic. The children are thus seen once a week at least and if anything goes wrong our nurse makes a daily visit. If a child becomes acutely ill it is sent at once to the Hospital for Sick Children. This policy is coming to be followed more and more with all cases in the Home.

Results.—The boarding out system is an expensive one—especially at present while we have to keep up the big institution as well. The cost averages about \$1,200.00 a month, in addition to a regular monthly budget of about \$3,000.00.

Does it pay? The records for the past 2½ years may give the answer:—

1918-19—Admissions 183, deaths 96—mortality rate 52%.

1919-20—The year the present staff took over—admissions 390, deaths 71—mortality rate 18%.

1920-21—Half year ending March 30th—Boarding Homes in operation; admissions 294; children boarded out 121; deaths 10—mortality rate 3.4%.

To me this result seems far too good to be true—but those are the figures. The Home is doing three times the work it did in 1918, and the death rate has dropped from 52% to less than 3½%. In the light of our experience I do not believe the case against Institutional Care of Children even merits serious discussion. Institutions for other than mental or physical defectives belong to a past age, and the sooner they are converted to some useful purpose the better for the inmates.

Malnutrition in School Children*

BY CHARLES S. MACDOUGALL.

THE problem of malnutrition of school children is, at the present time, occupying the attention of those interested in child welfare and education.

We realize that it is essential to have a well-developed body in order to get the fullest mental development. The problem of the under-nourished child, therefore, demands the attention and co-operation of the two groups, namely, "Medicine" and "Education," working in conjunction with each other.

Malnutrition is a definite entity, and in general terms, it is defined as a chronic condition characterized by a failure of the body to assimilate food and gain properly in weight. Like all other conditions it has its causes, and in the examination of a large number of advanced cases referred to the nutritional clinic at the Hospital for Sick Children, Toronto, we find the following causes predominate:

1. Improper Feeding.

This condition usually extends over a long period of time. Many of the children have no system to their living and one finds meals irregular, food poorly chosen, and improperly prepared. Pie, cake and tea find a predominant place in the diet, with such essentials as milk and vegetables treated with indifference by the child.

2. Diseased Tonsils and Adenoids.

Many of these cases are only detected by watching the tonsils over a period of time at weekly intervals. Slight gains are noted between attacks of nasopharyngitis with a rapid loss during the attacks. Improvement begins as soon as the tonsillar bases are healed following removal of both tonsils and adenoids.

3. Carious Teeth.

On observing the effect of carious teeth one soon finds the appearance of alveolar abscesses. The gain with carious teeth is slow and its duration is uncertain.

*From the Malnutrition Clinic, Out-Patient Department Hospital for Sick Children, Toronto.

4. Severe Infections.

Influenza and infectious diseases are the ones most commonly found. In the most of these cases one feels the malnutrition existed prior to the disease, and the patient stood the infection poorly, thus directing the parents' attention to the malnutrition and alarming them to such an extent that treatment was sought.

5. Chronic Diseases.

Families with positive tuberculin skin tests seem to do poorly, particularly if the tonsils and adenoids are in a chronically inflamed condition.

6. Intestinal Parasites.

Many of these cases pass undiagnosed, and it is not until the stools are examined over a period of days that the small pin worms are found.

7. Nervously Unstable Child.

The child is usually the only child in the family. He has been pampered at home and he re-acts poorly when in new surroundings with other children at school.

The diagnosis of malnutrition is made by the signs and symptoms presented. We find the child usually has the following signs and symptoms:

1. Underweight 10% for his height. This determination is made by the measuring rule and the scales.

2. *Irritable*.—He is disagreeable in his sports and inclined to be disobedient.

3. *Languid*.—He looks unhappy and does not become enthusiastic in his games.

4. *Pale*.—He has a sallow, pasty appearance with dark circles under the eyes.

5. *Lacking in proper muscular tone*.—His muscles have a tendency to be flabby and you find the normal body curves accentuated—(stooped, round-shouldered, etc.)

6. *Poor in his power of concentration*.—His interest can only be stimulated for a short period. The mental exertion of following a more active mind is too much for him and you find him soon in a listless attitude, as though dreaming.

Having diagnosed the condition of malnutrition, we now proceed to the problem of treatment. This phase of the work is approached in the most logical way by aiming to—

1. Regulate the life of the child.
2. Correct the existing home conditions that predisposed the child to malnutrition.
3. Eradicate foci of infection.
4. Increase rest period.
5. Give proper food, properly prepared.
6. Give fresh air with properly regulated physical and mental exercise.

The treatment outlined above is accomplished in the following manner: The children are referred to the malnutrition clinic and at this clinic a complete history is taken to ascertain, if possible, the cause and duration of the under-nourishment.

Following this a thorough physical examination is made with the object of detecting foci of infection. We aim to have the mothers present, and, while we are educating the child in the way of proper living, we indirectly educate the mother. Competition is stimulated by keeping charts for each child and by the giving of prizes to children making the best gain each month.

Following the physical examination, recommendations are made for the immediate treatment or disposal of the patient as the case may be. Cases showing diseased tonsils and adenoids are referred to their family doctor, or to the nose and throat clinic. Those with carious teeth are referred to their dentist. In this manner we are able to eradicate pathological conditions. Should additional rest be advisable, the child is allotted a mid-day rest or recommended to admittance to the Forest School or the Open Air School. On some occasions additional food is prescribed as eggs and milk. After leaving the clinic, the child is not lost track of. The Visiting Nurse visits the home, and, in a tactful way, supervises the practical work of the home as outlined by the clinic. The mother is taught to properly train, feed and care for her child.

The question of malnutrition will not find a solution in the school or in the clinic. These two public benefactors serve only as sources of information and education. The battleground of malnutrition is the home, and, if the co-operation of the parents is rendered, success is practically assured. It is very essential that the child be taught how to live properly and to accustom him to a system of living, which will reflect itself on the other members of the family.

The results of the treatment of malnutrition are slow, even under favourable conditions; six months to a year is required to bring the child, and keep the child up to the standard. The main factor which will ensure results permanently is education given at

school, at clinics and particularly in the home. It is only necessary for us to persist in this movement and, before many years, our objective will be reached.

Malnutrition is a menace to the individual and a menace to the nation. We are all too familiar with the statistics of our man power compiled from 1914 to 1919, and our survey of schools shows the child power is equally as bad.

In some communities the ravages of disease in early childhood had practically made those communities unable to send strong sons to defend them.

Our efforts are being spent in prevention of disease, and to bring the nation physically and mentally into a class superior to all others.

I am indebted to Dr. Alan Brown, Physician-in-chief, Hospital for Sick Children, for the use of the material embodied in this paper.

The Victorian Order of Nurses

The Need for Co-operation between the Hospital, The Public Health Nurse, and the Community

BY MISS JESSIE FORSHAW, R.N., *Inspector, Victorian Order of Nurses for Canada.*

WE are all familiar with the old conception of a hospital—it unfortunately the conception that the function of the hospital being was a place to go to when sickness overtook one; unfor-gins and ends there still exists in the minds of many, and, moreover, it is not so long ago since our evolution from this idea that no self-respecting person would go himself, or allow any member of his family to enter a hospital for treatment. The hospitals were looked upon then more as alms-houses than as places where the benefits of scientific medical skill and intelligent nursing could be received. We could enlarge upon that old idea, but for immediate purposes it would be better to confine our attentions to the present-day opportunities of the modern hospital; we cannot help, however, but appreciate the great work that science and education have accomplished by bringing about the death of that old tradition; so that to-day we look upon hospitals as logical places for the treatment of any physical or mental derangement.

We have found the hospital to be an indispensable assistant in the development of medical science; it has been the co-worker in the advance of surgery by providing clinical material for observation, laboratories for research work, and operating theatres where such technique as will assist the surgeon can be carried out, and in addition to this the post-operative nursing of the patient. In this way the hospital accomplishes the dual service as it serves science and the individual.

The hospital has yet to serve in another way, one so diametrically opposite to what it has been doing that some very self-satisfied Boards of Hospitals and the graduates of the old school of medicine and nursing who can see only the curative principle, are apt to look upon the new conception of medical science, which, in the last analysis is the prevention of disease, as an innovation inaugurated by a few erratic individuals, and, without taking the time to study it,

give the twentieth century discovery as much discouragement as the pioneers of scientific research received in the nineteenth century.

Between communities and most of the hospitals throughout the Dominion there is a missing link, which will continue until the medical and nursing professions, hospitals and hospital boards, and the community as a whole recognize the preventive principle in caring for the health of the community. Until prevention of disease, mental and physical, is considered the standard of efficiency in medical science and community administration, just so long will we continue to build, year after year, additional wings to our hospitals and add to our taxes for the up-keep of institutions for dependents and delinquents.

The missing link, may, to a certain extent, be covered by the public health nurse, who will be the chief educator of the public as her school rooms will be the homes of the people, and her offices of administration the community welfare house.

Provided we can destroy the old idea that the hospital's sole function begins and ends with curative medicine it will be an easy matter to co-relate its function with public health activities and community welfare.

The larger city institutions have had for a number of years their Out-patient Departments, which are called dispensaries. The name itself best describes the principles under which it operates to dispense medicine or give attention to those who otherwise are unable to pay, but its chief object was to care for those who came to the dispensary, treating them from a medical viewpoint only, and disregarding the social and economic background of the individual.

When Dr. Richard C. Cabot organized the social service department in connection with the dispensary of the Massachusetts General Hospital, he realized that an opportunity existed for the hospital to serve the individual and so doing serve the community. Although organized to realize an altruistic ideal, it soon demonstrated an economic principle which heretofore had been unrecognized, but which the governments of to-day are recognizing to be the fundamental means of reducing the cost of our institutions and their up-keep. It is cheaper to prevent than to cure and in this way be relieved from supporting people who are non-producers through some physical or mental disability.

The community or the nation as a whole in endeavouring to raise the standard of health is not taking from the individual his or her rights, but is impressing upon them their duty to the commun-

ity in keeping healthy and giving to the race such progeny that the existence of the Anglo-Saxon people will not be threatened as it is to-day.

There is a great need in the rural districts of Canada, as well as in the urban centres, for the extension of the out-patient idea, but organized with more of a public health principle in view and to assist whenever possible in the social and economic readjustment of the individual. The outlying districts being sparsely settled makes it impossible for the settlers to be close to the hospital, therefore the services of a hospital must be combined with the activities of the public health nurse.

The duties of the public health nurse usually consist of caring for any emergency cases; all maternity cases should be encouraged to go to the hospitals for delivery and after-care. This, of course, is not always possible. She will follow up discharged hospital cases, which require some observation, but do not need hospital treatment and hospital bed.

Child Welfare and Prenatal Instruction will also be important parts of her work, and when school nursing is properly organized clinics will be needed in the rural districts as they are in the cities. The organization and administration of clinics is a big problem in itself and cannot be discussed here. However, it is very obvious that unless they are placed on as near a paying basis as possible, hospitals will be slow to start departments which would entail more financial expenditure unless there is an assured source of revenue for this purpose. In the foregoing lines I have not touched upon actual bedside nursing. I cannot yet see, although recognizing a difference of opinion in regard to this, how we can successfully teach public health in the home if we do not take advantage of our profession which has taught us to nurse, and by serving in times of illness those who particularly need the skill and care we alone can give. This has proven the open sesame to many homes which needed our public health teaching.

There will probably be included in this nurse's district several smaller places, so grouped that the hospital is easily accessible. Canada is fairly well supplied with well equipped hospitals, and now that roads are being constantly improved and motor transportation available, it is not necessary for every little village to have a hospital. To overcome any geographical difficulties or where distances are great, health centres can be erected which will have the Public Health Nurse in charge, but this health centre will only be a clearing station, and the larger hospitals will be the points of con-

centration when laboratory facilities are needed to assist in diagnosis and where advice or consultation with other medical men and specialists can be obtained and expert treatment given.

Without such assistance the Public Health Nurse's power for good is greatly diminished. Her function is to serve as the Watchman at the Gate, to find the physical, mental and social defects which may be retarding the development of the individual, and which so often lead to physical, mental and spiritual stagnation. After finding an individual needing care, the next step is to approach the hospital staff in order that diagnosis and treatment may be provided. We can no more expect efficiency from the public health nurse without the assistance of the hospital than we can expect an accurate diagnosis of disease without laboratory facilities.

Now as to the administration of the public health nursing service, we all recognize a correlation between the hospital and the community; therefore there should be some basis of organization whereby the interests of the hospital as an institution and its function, and those of the public health nursing service, whether it be in the form of government administration or voluntary, may be co-ordinated. The one is as equally important as the other, but are inter-dependent, and the viewpoint of the community needs to be introduced and brought to the attention of the hospital board.

If co-operation can be secured between the hospitals and communities through the medium of the Public Health Nurse and her board of directors, whether in the nature of government administrators or the voluntary worker there will be a fresh spirit of service inculcated into the activities of the hospital, a service which the community sorely needs.

JESSIE FORSHAW.

Progress of Venereal Disease Control in Canada

BY DR. J. J. HEAGERTY, M.D., D.P.H.,

Chief, Division of Venereal Disease Control, Department of Health, Ottawa.

THE campaign of venereal disease control has now been in operation in the Dominion for a period of a little more than two years. It will be recalled that in the year 1919 the Dominion voted the sum of \$200,000.00 per annum to be distributed among the provinces, *pro rata* according to population, for the control of venereal diseases, with the understanding that the provinces provide an amount equal to that received. It was intimated at the time that this grant would be continued until such time as the venereal disease situation proved satisfactory.

It was agreed that the campaign should comprise free clinics, hospital beds and laboratories. All of the provinces with the exception of Prince Edward Island accepted and the work has been carried on with considerable success.

Before the inauguration of the campaign, laws and regulations for enforcing treatment of individuals in an infective stage were in operation in the provinces. These laws and regulations have as their object the protection of the public. They are in the main as follows:

Compulsory modified notification, i.e., notification by number until such time as the patient fails to continue treatment when notification by name takes place.

Compulsory examination and treatment of all persons in custody and compulsory treatment of any individual in an infectious condition.

Prohibition of sale of drugs or appliances and advertisements of cures.

"It is a statutory offence to offer for sale remedies for the cure of venereal disease." Sec. 207, Criminal Code.

Exclusion of infected persons from special trades.

Right of entry.

Obligation to secrecy on the part of all engaged in the work.

Free treatment.

Prosecution in camera.

Non-liability of physicians to action for reporting.

The laws and regulations are being rigorously applied in the respective provinces and are of distinct value to the community.

On the legal phase of the question, Dr. E. W. Hope, of the city of Liverpool, England, in his annual report for 1920, writes: "To say that the position in regard to the prevention of venereal disease is not satisfactory would be to gravely underestimate the position. Only the fringe of prevention has been touched by the provision at great public expense, and under skilled guidance, of free treatment at each of the leading hospitals in the city. The diseased person may attend if he chooses and for as long as he chooses. The skill and the money expended do unquestionably result in alleviating a great deal of suffering and may to a small extent limit the spread of the disease. But the failure of the system is manifest; 50% of the patients cease to attend as soon as the grosser symptoms disappear, but long before they are free from infection. In stating this Dr. Hope adds that the system of clinics now in vogue in Liverpool is admittedly as good as any in the kingdom. Clearly, he concludes, it is a waste of public money and public effort to give treatment which fails to have results. The public health object of that treatment is not primarily to benefit the individual but to protect the public, and if, because of non-continuance of treatment, the individual remains a source of danger and infection, we have rank waste of money and of effort.

A specially appointed sub-committee of the Liverpool City Council has prepared for submission to Parliament a series of proposals which have already received the unanimous approval of the municipal authorities and the local medical profession. The aim of the clauses is to secure continuity of treatment till freedom from infection is reached in the case of every person infected with venereal disease. Such an aim involves compulsory removal to and detention in hospital in certain cases and the provision of suitable hospital accommodation for the purpose. Dr. Hope tells us that measures closely in line with these proposals have already been adopted with success in some of the British Dominions and also in the United States of America.

In Canada less than 10 per cent. of the cases fail to return before treatment is completed and of this number at least 50 per cent. finally return voluntarily. When a patient fails to return for treatment as directed, he is written a friendly letter advising him that he is not cured of his disease and urging him to return for further treatment. If he fails to return he receives a printed

form advising him to return under penalty. If he fails to comply, he is arrested. In the case of a person who had been under treatment while in custody, a printed form is given at the time of discharge enjoining further treatment under penalty. This invariably has the desired effect.

There are fifty free provincial clinics in operation throughout the Dominion. There are two types of clinics—one situated in the hospital as a branch of the outdoor dispensary; the other in office buildings. Clinics, with few exceptions, are open evenings for those unable to attend during the day. In the clinic there is a venereologist and staff of assistants, and working in conjunction a social service nurse who follows up cases where necessary. She pays particular attention to delinquent girls, sees that they continue treatment, removes them from their environment to another city, if considered necessary, and finds employment for them. She also interviews the families of infected individuals when thought advisable and is altogether an important factor in the campaign.

Laboratories have been established in all of the provinces and these laboratories make serological and other reactions for the clinics and physicians without charge. Each clinic is provided with apparatus necessary for the immediate examination of smears.

In the month of June last, there were under treatment in the clinics, 7,424 cases of venereal disease. Of these 914 were new admissions and 6,510 were under treatment from the month of May preceding. Of the 7,424 cases under treatment, 142 were discharged apparently cured, and 207 failed to return (less than 3 per cent.). The majority of these will return for further treatment either by persuasion or compulsion. During the month there were 54 readmissions of those who had failed to continue treatment as directed. Of those apparently cured, 53 were cases of syphilis and 89 gonorrhoea.

The great majority of those under treatment will be made non-infective. Few of these under the old system of uncontrolled treatment would have been cured. Most of them would have remained foci for the spread of infection. The law against infecting others makes for continence, while in an infective stage. Legislation and clinics are very material factors in diminishing the spread of infection. The problem of venereal disease control is essentially a public health problem.

During the same month there were reported by practising physicians 1,193 cases of venereal disease. This means that there were under treatment 8,617 cases of venereal disease in the Dominion.

during the month of June, and of this number 2,017 came under observation for the first time during that month.

Of the 914 new admissions to clinics there were 492 suffering from syphilis, 402 from gonorrhoea and 20 from chancroid.

Of the 1,193 cases reported by physicians there were 597 suffering from syphilis, 586 from gonorrhoea and 10 from chancroid.

It will be noted that the number of cases of syphilis reported is greater than the number of cases of gonorrhoea. This is due to the fact that many cases of old syphilis are reporting to clinics and physicians for treatment; undoubtedly the result of the campaign of education which is being conducted throughout the Dominion.

The following figures give a fair estimate of the number of infections occurring monthly in the Dominion:

MONTHLY REPORT.

	New Admissions to Clinics	Reported by Physicians	Total
February	947	1,204	2,151
March	713	1,349	2,062
April	683	1,221	1,904
May	683	1,520	2,203
June	914	1,193	2,107

This gives the monthly average number of cases as 2,085, or roughly 25,000 per annum.

In the fifty clinics in the month of June 13,937 treatments were given: 1,914 Wassermann's were performed; 366 smears for G. C. and treponema were made and 3,498 injections of the arsenical preparations were given. Hospital clinics are treating a great many more cases than are the clinics in public buildings, due in some measure to the fact that the clinics in the hospitals have been in operation in most cases for many years and to the fact that in the final analysis there is less publicity, inasmuch as most of the hospital clinics are conducted as a part of the general outdoor department.

The campaign of education which consists of pamphlets issued by the Provincial and Dominion Departments of Health, lectures, films and exhibits, is carried out by the provinces with the aid of the Dominion Department of Health and the Canadian National Council for Combating Venereal Diseases. This campaign is carried out continuously and thoroughly in some of the provinces,

notably Ontario and Quebec, and spasmodically in some of the other provinces.

The campaign of education lacks centralization and it is a question if it would not be better to have this phase of the work placed in the hands of a central organization for the sake of uniformity and continuity of effort.

Pamphlets for sailors, pointing out the dangers of infection, the advantage of early treatment and offering free treatment in clinics which are now in operation in every Canadian port are being distributed to all incoming ships.

The clinic by rendering the greatest possible number of cases non-infective and thereby diminishing the foci of infection is at present the most important factor in the control of venereal disease.

Social Background

The Aims of Modern Social Work

F. N. STAPLEFORD, *General Secretary, Neighborhood Workers' Association, Toronto.*

THAT is it all about? What are the goals to be attained and what are the methods adopted to attain them? The constituency which constitute the problem of social work consists of the unskilled and unorganized workers and their families and those others who through misfortune and other causes have physical, mental or moral handicaps, or are placed in a peculiarly defenceless position, economically or socially. The skilled and organized workman, to a large extent, except in times of exceptional depression, bargains on fairly equal terms with his employer, and has been able to make good progress in improving his position. There are, of course, here and there individuals who, through prolonged illness or other causes, fall below the poverty line, but their position is, as a rule, much more secure and they do not constitute, to any large extent, the task of the social worker. It is only in times of crisis such as the present that any large numbers of these must seek the advice and help which the Social Worker can give.

The unskilled worker is in a different position. If he has a family his wages are seldom such as to permit of savings, being in fact scarcely adequate for decent maintenance. He has seldom a reserve of more than two or three weeks, and a short illness or brief period of unemployment makes help necessary. It is not merely a matter of relief, but also of inability to secure for his family, even in normal times, various services which the social worker must supply.

There is a group still lower in the economic scale, consisting of deserted wives, the physically and mentally disabled, those where the breadwinner has suffered prolonged or chronic illness, the aged, and at the other extreme—dependent children. Still lower lurk those individuals or families who are the most unwholesome and repulsive product of modern life—those who are abject—immoral—in whom seemingly have died much that the race has come to prize as essential to humanity. Ignorance, mental or physical ill-health, and economic causes, figure much more largely however than do char-

acter weaknesses in bringing families below the poverty line, although these also are important causes.

These constitute the problem of the Social Worker. What then are his aims and ideals? The school boy said that all geometry begins with a general denunciation. Social work does not. It begins with an attempt to understand, in order to act intelligently.

The more remote aim is to build up safeguards around these classes who are thus peculiarly defenceless. Greater security of position is absolutely essential. Social workers have thus assisted in working out, and have advocated along with others the constantly growing body of protective legislation which is working a silent revolution in modern life. Minimum Wage legislation, Mothers' Allowances, Workman's Compensation are recent examples of this.

RELIEF AND PERSONAL SERVICE.

The more immediate object of social work is to do the immediately necessary thing. This, the public usually visions in terms of relief. The services rendered by the social worker have, however, gone a long way past the time when the social worker was simply an almoner of alms. Relief is frequently necessary, but it is a clearly dangerous thing without personal service attached to it. Much of the most valuable work done by the Association has no relief attached to it at all. To connect a family with the organizations furnishing health service, recreational facilities or spiritual stimulus; to secure legal advice, inculcate thrift and household management; to secure institutional care; where this is needed, for natural dependents such as mental defectives; these are to mention but a few of the services rendered by the Social Worker to the families and the community. To keep up family morale by friendship and good advice is certainly a valuable service. The worker brings to bear upon a family's difficulties a trained mind and a well tried and scientific method, and a way out is found in a surprisingly large number of cases.

Social work is a great educational process. Its subject matter is not books but effective living.

RETROGRESSION.

This winter has given to the Association such a great amount of emergency work that it was difficult to do it all with care and thoroughness. A period such as this threatens to undo much of the careful, patient work of the past. Families being built up in self-

respect and self-help suddenly find themselves faced with a situation with which they cannot cope because it is socially produced, and thus become discouraged. Every sort of human misery, from the wreck of homes to the underfeeding of children, follows in the wake of unemployment. Insecurity cuts the nerve of initiative. The fruitless search for work and the necessity of receiving relief frequently demoralizes family life.

When the unemployment situation ends there remain not only families impoverished from the material standpoint, but too frequently impoverished also in that personal capital which makes for success and good citizenship. The only effective remedy for unemployment is employment, and in this the social worker is largely helpless. There are two things, however, which we should use any influence we may possess to obtain.

(1) The speedy settling by the city of the method and organization by which it will handle its Welfare problems. The leaders of the city's social welfare work should now be in constant conference with those engaged in private welfare work for the formulation of plans for co-operation for the coming winter. The municipal authorities carry a heavy responsibility in seeing this matter is rightly and scientifically settled, and that with all speed.

(2) There should be a thorough study of unemployment insurance as a means for meeting future crises of this kind. It will be too late for this present period of depression, but it could be inaugurated to meet the next period which will inevitably come.

One thing here should be stated with all emphasis. There seems to be a little public irritation that with the coming of spring the unemployment situation should still continue. There is a sort of irrational feeling fostered somewhat by some foolish utterances of radicals that the men are out of work because they do not want work. There are, of course, always some who take advantage of a situation such as this, but the very obvious fact is that the men are not working because they can not obtain it. If there is work in the country unmarried men certainly should take it, but for the married man, without previous experience on the farm, this remedy is often impossible. Our experience has been that for the most part the men want work, and want it with an intensity and passion that those whose position is secure cannot understand.

The community has a right to expect a good deal from the social worker. It has the right to expect interest and enthusiasm in this important work. It has a right to expect absolute integrity and the most scrupulous exactitude in the handling of public funds. It

has the right to insist that the social worker keep alert and informed as to the constantly advancing standards, and be ready to co-operate with all others in the interests of the work. It has a right to demand that the worker be properly trained and qualified, and that the worker take the long view rather than a short limited view. The social worker, on the other hand, has the right to expect from the community, intelligent interest and appreciation, and sufficient financial support to put the work on a proper basis.

We do not always live up to our ideals, but there has been a steady progress towards the development of an organization through which they can be attained.

The work of the Association is a public trust which, with many mistakes, no doubt, and with difficulties and discouragements, yet with real successes and steady progress, we are faithfully attempting to discharge.



The Provincial Board of Health of Ontario

COMMUNICABLE DISEASES REPORTED BY LOCAL BOARDS OF HEALTH FOR THE MONTH OF AUGUST, 1921.

COMPARATIVE TABLE.

Diseases.	Aug. 1921 Cases.	Aug. 1921 Deaths.	Aug. 1920 Cases.	Aug. 1920 Deaths.
Small-pox	24	0	171	0
Scarlet Fever	114	3	173	4
Diphtheria	264	28	273	36
Measles	50	0	626	10
Whooping Cough	151	6	178	21
Typhoid	*152	27	67	10
Tuberculosis	213	139	192	129
Infantile Paralysis	23	3	5	1
Cerebro-Spinal Meningitis	3	1	6	6
Influenza	2	2	7	7
Pneumonia	—	83	—	96
	996	292	1698	320

*London reported 85 cases out of the 152.

VENEREAL DISEASES REPORTED BY MEDICAL OFFICERS OF HEALTH.

COMPARATIVE TABLE.

Diseases.	Cases, 1921.	Cases, 1920.
Syphilis	144	159
Gonorrhoea	175	204
Chancroid	5	4
	324	367

SMALL-POX CASES REPORTED.

County.	Municipality.	Cases.
Brant	Brantford	1
Carleton	Ottawa	3
Essex	Belle River	1
Grey	Egremont	1
Leeds and Grenville	Brockville	2
Nipissing	Ferris	7
	Sturgeon Falls	1
Ontario	East Whitby	1
Simcoe	Floss	1
Thunder Bay	Fort William	5
Timiskaming	New Liskeard	1
		—
		24

VENEREAL DISEASE REPORT FOR THE DOMINION OF CANADA FOR THE MONTH OF JULY.

CLINICS—

No. of cases continuing treatment from June	7,281
New Admissions—Syphilis	366
	408
	25
	—
Total number under treatment in clinics	8,080
REPORTED BY PHYSICIANS—	
Syphilis	619
Gonorrhoea	508
Chancroid	14
	—
Total number of cases of Venereal Disease under treatment in Dominion in July	9,221

The Department of Health, Canada

THE following is a recent circular letter issued by the Dominion Department of Health:—

Ottawa, July 27, 1920.

Sir,—Subsection (b) of Article 10, of Chapter III., of the International Opium Convention in respect to medicinal Opium, Morphine, Cocaine, etc., which was embodied in the Peace Treaty, reads as follows:—

To require that all persons engaged in the manufacture, import, sale, distribution, or export of Morphine, Cocaine, and their respective salts, shall be furnished with a license or permit to engage in these operations, or shall make to the competent authorities an official declaration that they are so engaged.

Canada being a signatory to the Peace Treaty was obliged to pass laws in conformity to the above-mentioned requirement, and at the recent session of Parliament a Bill, known as The Opium and Narcotic Drug Act, was passed dealing with this subject.

Subsection (3) of Section (5a) of Chapter 31, of the Statutes of 1920 provides in part as follows:—

Every physician, veterinary surgeon, dentist and druggist, pharmacist or chemist shall make to the Minister as and when required, a declaration in the prescribed form, stating that he is engaged in the sale or distribution of Opium, Morphine, Cocaine, and their respective salts or derivatives, or otherwise, as the case may be.

Every such physician, veterinary surgeon or dentist shall on request furnish the Minister with any information he may require under any regulation made under this Act with respect to the drugs received, dispensed, prescribed, given away or distributed by such physician, veterinary surgeon or dentist.

Any such physician, veterinary surgeon, dentist or druggist neglecting or refusing to make such declaration in the prescribed form, or any physician, veterinary surgeon or dentist neglecting or refusing to give such information so required by the Minister shall be guilty of an offence and liable, upon summary conviction, to the penalties provided under Subsection (2) of this Section.

Penalties—A fine not exceeding One Thousand Dollars and costs, and not less than Two Hundred Dollars and costs, or to imprisonment for a term not exceeding one year, or to both fine and imprisonment.

In view of the requirements of the aforementioned Statute, we are enclosing herewith Form M-6 which should be completed and returned to the Department. All letters should be addressed to the Deputy Minister, attention of the Opium and Drug Branch.

I have the honour to be, Sir, your obedient servant,

J. A. AMYOT,

Deputy Minister.

P.S.—Retail druggists who manufacture preparations containing narcotic drugs should make application to the Department for Form M-2, on which to apply for a license as provided under the Act.

FORM M 6

Declaration required from Physicians, Veterinary Surgeons, Dentists, Druggists, Pharmacists, or Chemists (other than those who manufacture) who engage in the sale or distribution of Opium, Morphine, Cocaine or their Respective Salts or Derivatives.

Subsection (3) of section (5a) of the Statutes of 1920 provides as follows:—

Every physician, veterinary surgeon, dentist and druggist, pharmacist or chemist shall make to the Minister as and when required, a declaration in the prescribed form, stating that he is engaged in the sale or distribution of opium, morphine, cocaine and their respective salts or derivatives, or otherwise as the case may be.

Every such physician, veterinary surgeon, or dentist, shall on request furnish the Minister with any information which he may require under any regulation made under this Act with respect to the drugs received, dispensed, prescribed, given away or distributed by such physician, veterinary surgeon or dentist. Any such physician, veterinary surgeon, dentist or druggist neglecting or refusing to make such declaration in the prescribed form, or any physician, veterinary surgeon or dentist neglecting or refusing to give such information so required by the Minister shall be guilty of an offence and liable on summary conviction to the penalties provided in subsection two of this section.

Pursuant to the requirements of the said Statutes, I
..... of the

Province of Profession
do hereby declare that I am engaged in the sale and distribution of opium, morphine, cocaine and their respective salts or derivatives.

Name in full

Street Address

City or Town

Province of

Declared before me

This day of 19.....

News Notes

(1) Licensing and supervision of Maternity Homes, Boarding Homes for Children, and Day Nurseries, in the Province of Manitoba, will be carried on under the direction of the Manitoba Provincial Board of Health, by the Public Health Nursing Department, beginning October 1st, 1921.

(2) Child Welfare Stations have been opened during the summer months in the municipalities of West Kildonan, St. James and the City of St. Boniface.

(3) In Portage la Prairie, a dental clinic has been recently opened, in the Child Welfare Station, with the Public Health Nurse in attendance.

The Massachusetts-Halifax Health Commission is very active although it has only been working a year. Like most new ideas it has to be content to progress more slowly than those at the head, with a wide and great vision of its possibilities, would wish. People have to be educated to the appreciation of Public Health work. Each week sees fresh patients at each of the clinics, and as these are very often sent by those who have come and have themselves been helped, it is one of the encouragements.

At the time of the explosion in December, 1917, the people of Massachusetts subscribed a large sum of money for the relief of those who had been injured or lost their homes in that disaster. After all claims had been settled there was a large portion of this money left, sufficient to finance a big work. Dr. B. Franklin Royer, formerly Chief Medical Inspector of the State of Pennsylvania, was appointed executive officer. Admiralty House, which had been used as a naval hospital, was then empty, and through his efforts it was loaned for this work and clinics were established, which were held every afternoon and on three mornings each week. There are now between three and four hundred families on the roll. In some families there are four and five attending various clinics. Each family, as a member is first admitted to any clinic is given a number. If others come in they have the same number with the addition of b—c—etc., a letter for each member of the family attending a clinic.

There are now established tuberculosis clinics, child welfare, ear, nose and throat, dental, pre-school age, and psychiatric, and very soon posture and nutrition clinics will be opened. The child welfare are very busy clinics; each child being undressed, weighed and measured. If it has attended before, the mother dresses it again and goes to the waiting room until it is her turn to take her baby to the doctor for advice; if it is a new case, it is kept undressed, wrapped in a warm covering and in turn gets a most careful and minute examination. It is very surprising to the mother to find most of the baby's troubles can be overcome by exact and regular carrying out of the doctor's orders about feeding. They come expecting medicines and treatments. They are supervised in their homes, and if they do not know how to prepare the food advised, the nurse shows them how to do it and visits regularly as often as necessary until the mother is able to carry out instructions without assistance. The results have been very gratifying.

At the pre-school dental clinic is a very thoroughly equipped dental room, with a small sized dental chair. The city is divided into districts and each nurse looks after the public health of her district as far as she comes in contact with the families. The number of families under supervision is, of course, constantly increasing. Each time a nurse goes into a home she sees something she can discuss or advise about, and the people on the whole are very glad of her help.

The removal of tonsils and adenoids has shown wonderful results to the parents. The patients are admitted to the ward at night, operated on in the morning, and go home the second morning in the car of the commission. The results are then carefully watched.

When the nutrition and posture clinics are established, it is felt that the health programme will be quite complete, and that the children will have a chance for normal development.

The Canadian National Council for Combating Venereal Diseases has procured for the use of its branches the American Social Hygiene Association film entitled, "Prostitution and the Police." The picture is designed for the instruction of police forces and may be procured on loan by any local branch on application.

The Fall meeting of the Dominion Health Council was held in Ottawa on October 19th, 20th and 21st.

In future the offices of the Provincial Board of Health, Public Health Laboratory and Registrar General's Department of the Province of Ontario will be at Spadina House, Spadina Crescent, Toronto.

A meeting of the Executive of the Canadian Public Health Association was held in Toronto, on Monday, October 7th. The St. John meeting was discussed and considerable business disposed of. Resolutions were passed urging that Health Officers throughout the country inaugurate milk campaigns. A second resolution called attention to the fact that the duties of the Minister of Health of the Dominion are divided between two departments and urge that this condition of affairs be corrected. It is proposed to urge upon the various political parties the necessity for the Minister of Health concentrating his attention upon the subject of health.

One of the most important features of the Fiftieth Annual Meeting of the American Public Health Association is to be the Health Institute, which is to be a comprehensive course on public health procedure, given November 8-12, 1921. This Institute is not confined to members of the American Public Health Association but is open to all public health workers.

The Section on Communicable Diseases will include the venereal diseases. The program includes New Jersey State Board's Venereal Conference in Jersey City on Thursday, November 10th, on the diagnosis, treatment and control of venereal diseases at the Jersey City Hospital, and the inspection of the Genito-urinary Clinic and a discussion of the relation of the Bureau of V.D. Control to the practicing physicians. Round Table discussions of various relations of venereal diseases to public health, and the showing of moving picture films and visits to various clinics are also planned. These are to be announced and arranged by appointment. Any one planning to attend is urged to communicate with Dr. Donald B. Armstrong, Director, 370 Seventh Avenue, New York City.

Notes on Current Literature

Physical Education from the Standpoint of the Industrial Physician.

Fatigue is the most common cause of breakage, of wastage, or poor quality of product, of accidents and of lessened production. Dr. Elliott, of the General Electric Company, advocates games during the noon hour to counteract fatigue due to monotony of occupation. (Journ. Industrial Hygiene, Sept., 1921, p. 168.)

The Physical Growth of Children.

A thorough study of the University of Iowa on the following phases of child welfare:

1. The physical growth of children from birth to maturity.
2. A survey of musical talent in the Public Schools.
3. A preliminary study in corrective speech,
4. An analytic study of a group of five and six-year old children.
5. Investigations in the artificial feeding of children.
6. Child legislation in Iowa.
7. Selective migration as a factor in child welfare in the United States.
8. The mental growth curve of normal and superior children. (University of Iowa Studies, First Series, No. 50, Vol. 1, No. 1, June 1st, 1921.)

The Ravages of Venereal Disease.

Presidential address by Sir James Crighton-Browne, M.D., LL.D., F.R.S., at the 34th annual conference of the Sanitary Inspectors' Association, held at Bath, England, August, 1921. ("The Medical Officer," Sept. 10th, 1921, p. 117.)

The Efficiency of the Present Machinery for Dealing with Venereal Diseases and the Additional Measures Essential for Effective Prevention.

(Journal of State Medicine, Sept., 1921, p. 257.)

Health Centres as Seen by a Public Health Nurse.

(Amen. Journal of Public Health, Oct., 1921, p. 915.)

Public Health Nurse as an Organizer in a Rural Community.

(The Canadian Nurse, June, 1921, p. 344.)

Setting to Work as a Country Nurse.

Some very practical hints for nurses conducting medical inspection of school children. (Pub. Health Nurse, Sept., 1921, p. 472.)

The Efficiency of the Present Machinery for Dealing with Tuberculosis.

(Journ. State Medicine, Sept., 1921, p. 264.)

Present-day Problems in Physical Education.

(Amen. Physical Education Review, Oct., 1921, p. 318.)

Vocational Training vs. Occupational Therapy.

(The Nation's Health, Sept. 15th, 1921, p. 536.)

Medical Service as Affecting Industrial Relations.

(The Nation's Health, Sept. 15th, 1921, p. 512.)

Sanitary Control of Foods.

(Amen. Journ. Pub. Health, Oct., 1921, p. 920.)

Current Literature dealing with Venereal Diseases

These abstracts are available through the courtesy of the American Social Hygiene Association.

Viability of Spirochete Pallida in Excise Tissue and Autopsy Material. By George R. Lacy, M.D., and Samuel R. Haythorne, M.D., *American Journal of Syphilis*, Vol. V., No. 3, July, 1921.

The authors became interested in the question of the occurrence of spirocheta pallida in dead tissue, when actively motile spirocheta were found in the blebs and organs of a stillborn congenitally syphilitic infant which had been kept in a refrigerator twenty-six hours prior to the autopsy. They conducted experiments in order to determine the time during which the spirocheta pallida remain alive in dead tissue, the criteria being the motility of the organism and its ability to transmit the disease to a new host.

Their results are summarized below:

Spirocheta kept in serum or moist tissue, either human or animal, may retain slight motility as long as three months or more. Reliable dark-field examinations can be made on tissues or fluids collected several hours previously, provided they are kept moist and cool. Complete drying is probably fatal to the spirocheta pallida, since each of the rabbits used by the experimenters failed to develop syphilitic lesions when inoculated with dried spirocheta. This is in accord with the work of Neisser. Spirocheta pallida may, and in the case of the authors did, remain virulent in autopsy material for twenty-six hours or longer.

The Toxicity and Trypanocidal Activity of Sodium Arsphenamin.

By Jay Frank Schamberg, John A. Kolmer, and George W. Raiziss. The American Medical Association Journal, Vol. 70, No. 26, June 25, 1921.

In parasitic disease in which specific remedies are applied to destroy the micro-organism, the value of the drug is determined by the chemotherapeutic index, i.e., the relation of the curative dose to the maximum tolerated dose. The authors have studied sodium arsphenamin and compared it with arsphenamin and neoarsphenamin. In this article, which is the third of a series on the subject, they give tables showing the toxicity and trypanocidal activity of sodium arsphenamin and also a table indicating the therapeutic indexes of the three drugs.

In summarizing, the following facts are emphasized:

1. The highest tolerated dose of sodium arsphenamin for white rats by intravenous injection was found to be from 212 to 215 mg. per kilogram of weight. The average tolerated dose of arsphenamin was 105 mg., and of neoarsphenamin 200 mg. per kilogram.
2. The smallest trypanocidal doses of sodium arsphenamin varied from 16 to 24 mg. per kilogram of weight; the smallest trypanocidal dose of arsphenamin was 5 mg. and of neoarsphenamin 9 mg. per kilogram.
3. The therapeutic dose (dosis curativa) of sodium arsphenamin was from eight to thirteen times less than the highest tolerated dose (dosis tolerata) which expresses the therapeutic index of this compound. The therapeutic dose of arsphenamin was twenty-two times less.
4. Therefore, while sodium arsphenamin possesses the low tox-

icity of neoarsphenamin, it is much inferior to both arsphenamin and neoarsphenamin in trypanocidal or curative activity.

5. The true gauge of a remedy is expressed by its chemotherapeutic index, i.e., the relation of the curative to the toxic doses.

Results of the Wassermann Test on 1,518 Men at San Quentin Prison. By G. W. Nagel. California State Journal of Mediden, Vol XIX., No. 5, May, 1921.

The Wassermann test was performed on 1,518 men, of which 166 or 10.93 per cent. showed some luetic insolvent. The following are some data obtained:

Married	39.75	per cent.
Single	60.25	"
Admitted a venereal disease	66.27	"
Denied a venereal disease	33.73	"
Gonorrhoea only	32.53	"
Syphilis only	5.42	"
Both gonorrhoea and syphilis	27.71	"
Never received anti-syphilitic treatment	96.99	"

Of the 166 cases, 139 men received treatment at San Quentin. The course of treatment consisted of an injection of arsenobenzol, every four to eight weeks. In the interim the patient receives mercury rubs nightly for six days, followed by a week of rest. This procedure is continued as long as signs of lues are present or until symptoms of mercurialism appear.

Up to date 77.53 per cent. have shown marked signs of improvement. A few cases remain "Wassermann fast" in spite of prolonged treatment. There is no adequate explanation for such occurrences. In this connection it may be noted that the reliability of the Wassermann tests as an indication of the patient's condition has been seriously questioned by some, it being claimed that certain cases, though actually cured, still give positive reactions. Another point of interest is that 22.3 per cent. of those who showed improvement first gave a negative reaction followed by a positive one again, before the final negative or at least a reduced Wassermann resulted.

CONCLUSIONS.

1. The Wassermann test should be made a routine procedure in all complete medical examinations.

2. A negative history and physical examination does not preclude the possibility of lues being present.
3. The treatment as outlined above is an effective and practically safe method of bringing about a negative Wassermann reaction.
4. Five or six injections, accompanied by mercury rubs extending over a period of from one to two years are usually sufficient to bring about the desired result.
5. A small percentage of cases show no improvement in spite of prolonged treatment.

Syphilis in Pregnancy. The American Journal of Obstetrics and Gynecology. Vol. 1, No. 7, April, 1921.

Now that the Wassermann test has been accepted as conclusive means of diagnosis, every case of pregnancy should have a routine serological examination, even when no suspicious symptoms are present. This might be regarded as a prophylactic measure. Gonorrhreal ophthalmia is combated by a routine instillation into the eyes of every newborn child and in instances failure to do so is punishable. The prophylaxis of diphtheria is another recent development. It is said that at least 40 per cent. of syphilitic women present no objective symptoms, nor are they aware of their condition. This accounts for the widespread character of the disease and its innocent propagation. Hereditary syphilis is one of the most important factors responsible for many chronic diseases and the obstetricians must consider themselves responsible to a certain degree. The recent work of J. Whitridge Williams and others opens a field for broad study. If a study of a series of consecutive cases shows positive Wassermann reactions in four or five per cent., it is probable that the distribution is as extensive as is usually assumed. A more extensive study of this subject will do much to reduce the incidence of this disease.

Book Reviews

General Pathology. By Horst Oertel. Cloth, \$5.00. Pp. 357.
New York: Paul B. Hoeber, 1921.

The author has had in mind three objects: to approach the subject in the light of modern biology and to treat pathological processes as expressions of physico-chemical laws, to relate facts and present-day conceptions in their historic setting, and to visualize pathological changes as far as that is possible. To this end particular stress has been placed on the anatomical, histological and chemical alterations of the cell as the unit of processes of disease.

The first part of the book treats of pathogenic micro-organisms, the diseases they cause and the principles of immunity. Physical and chemical agents producing disease are next taken up and there is a separate section on disposition and heredity in which these topics are fully discussed.

The second part of the book deals with pathologic changes. The individual cells show such changes as atrophy and regeneration. Changes in the local relations of cells cause inflammation and tumors, while changes in the wider inter-relations of cells are illustrated by such generalized phenomena as oedema, shock and fever. The section concludes with a description of the pathologic changes in general somatic death.

Principles have been emphasized throughout. The style is concise and clear and the work will be of value both to university students and practitioners.

The second volume on special pathology will be awaited with considerable interest.

H. B. MAITLAND.

